**Bottled Water**

Some cities have banned the use of bottled water. There are concerns about chemicals in the plastic containers leeching into the bottled water, the amount of trash generated by plastic bottles, and the fact that plastic bottles do not readily decompose. The cost to our society needs to be weighed against the convenience of bottled water. Bottled water is healthier than carbonated soft drinks and does not require refrigeration during storage.

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| In the April/March 2009 edition of the Bottled Water Reporter, the Beverage Marketing Corporation lists the amount of bottled water sold during the years 2000 – 2008. Table 1 shows the number of gallons of bottled water sold during each year. 1. Since for any one year there will be only one total volume, Table 1 describes a special type of relation called a

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. 1. Write as a number how many gallons of bottled water were sold in 2000.
2. What trend do you notice over the nine years?
3. Looking at the data in Table 1, select a scale for the axes and label the graph.
4. Plot the ordered pairs.
5. Describe this graph.
 | Table 1Bottled Water Sold Annually

|  |  |
| --- | --- |
| **Year** | **Billions of Gallons** |
| Independent Variable | Dependent Variable |
| 2000 | 4.7 |
| 2001 | 5.2 |
| 2002 | 5.9 |
| 2003 | 6.3 |
| 2004 | 6.8 |
| 2005 | 7.5 |
| 2006 | 8.3 |
| 2007 | 8.8 |
| 2008 | 8.7 |

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1. Table 2 also describes a relationship. What quantities does it relate?

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| --- | --- |
| **Year** | **Revenue****(Billions of $)** |
| Independent Variable | Dependent Variable |
| 2000 | 6.1 |
| 2001 | 6.9 |
| 2002 | 7.9 |
| 2003 | 8.5 |
| 2004 | 9.2 |
| 2005 | 10.0 |
| 2006 | 10.9 |
| 2007 | 11.5 |
| 2008 | 11.2 |

1. As you examine Table 2, notice that for each year the producers reported revenue in dollars. Why is this relationship also a function?
2. What trend do you notice over the nine years?

|  |  |
| --- | --- |
| 1. Looking at the data in Table 2, select a scale for the axes and label the graph below.
2. Plot the ordered pairs.
3. Do you think the table or the graph does a better job helping you to see trends in bottled water annual revenue over the nine year period? Why?
4. Write the revenue for 2008 as a number (without using the word “billion”).
5. How did you decide how many zeroes and commas to put in your answer to #10?
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